

Remarks

Reconsideration of claims 1-5 and 8-18 is respectfully requested.

In the Office action dated November 4, 2003 (application Paper No. 6), the Examiner objected to the drawings and specification, and then rejected various combinations of claims under 35 USC §§ 112, first paragraph, 102(e) and 103(a). The Examiner's various objections and rejections will be discussed below in the order appearing in the Office action.

Objection to the Drawings

The Examiner first objected to the drawings in that they did not include various reference numerals mentioned in the specification. In response, applicants are submitting with this reply a set of corrected Formal drawings, which are presumed to address each aspect of this objection. Applicants thus respectfully request the Examiner to review these drawings and find them acceptable.

Objection to the Specification

The disclosure was objected to by the Examiner with respect to the mis-use of reference numeral "74" and a typographical error at page 8. As noted above, the appropriate paragraphs at pages 8 and 9 have been amended to correct both of these errors.

35 USC § 112, first paragraph Rejection - Claims 6 and 7

Claims 6 and 7 were next rejected by the Examiner under 35 USC 112, first paragraph as failing to comply with the enablement requirement, inasmuch as these claims contain subject matter which was not properly described in the specification. In response, applicants have cancelled claims 6-7.

35 USC § 102(e) Rejection - Claims 8, 11, 13 and 18

The Examiner next rejected claims 8, 11, 13 and 18 under 35 USC 102(e) as being anticipated by US Patent 6,567,267 (Chou et al.).

With respect to independent claim 11, the Examiner cited Chou et al. as disclosing “an optical transmission system” incorporated each recited element. In response, applicants assert that Chou et al. cannot be found to disclose, suggest or “anticipate” an “in-line fiber polarimeter” as defined in claim 11. The polarimeter arrangement of Chou et al., as obvious from FIG. 1, utilizes a beam splitter 105 to re-direct a portion of the propagating signal into a polarimeter 1, where the output signals from polarimeter 1 are thereafter used to as inputs to a polarization controller 108. This use of a beamsplitter and external polarimeter, as disclosed by Chou et al., is not considered to be equivalent to the use of an “in-line fiber polarimeter” as defined in claim 11 and discussed throughout the specification. Indeed, it was the limitations associated with the relatively expensive and field-sensitive external components that led the inventors to developing an “in-line” polarimeter (where “in-line” is a term used to describe an arrangement “integral with” the optical transmission fiber).

Claim 11 has been amended, as noted above, to fully describe an “optical *fiber* transmission path” and the use of an “in-line *fiber* polarimeter”. Based on this difference, applicants assert that Chou et al. cannot be found to disclose, suggest or anticipate the use of a “fiber polarimeter”. Dependent claims 13 and 18, as depending from claim 11, are also considered to be allowable, based on the above-described amendments.

The Examiner cited independent claim 8 as including the same limitations as introduced in claim 11. Accordingly, applicants have amended claim 8 to define “a polarization control element responsive to an input optical signal propagating along an optical fiber transmission path ... and an in-line fiber polarimeter formed as an integral part of the optical fiber transmission path”. There is no such disclosure in Chou et al. of providing an “in-line” polarimeter that is “formed as an integral part of the optical fiber transmission path”, as defined in claim 8.

Based on these distinctions, therefore, applicants assert that claims 8, 11, 13 and 18, as amended, are in condition for allowance over the cited Chou et al. reference. Applicants thus respectfully request the Examiner to reconsider this 102(e) rejection and find claims 8, 11, 13 and 18 allowable.

35 USC § 103(a) Rejection - Claim 12

Claim 12 was next rejected under 35 USC 103(a) as being unpatentable over Chou et al. in view of US Patent 6,385,356 (Jopson et al.). The Jopson et al. reference was cited by the Examiner as teaching the use of a section of birefringent fiber and the orientation of the active polarization control arrangement, as defined by claim 12 (claim 12 depending from claim 11).

For the various reasons discussed above with respect to claim 11, applicants assert that the combination of Chou et al. and Jopson et al. cannot be found to render obvious the subject matter of claim 12. More particularly, there is no teaching in either reference regarding the formation of an “in-line fiber polarimeter integral with said optical fiber transmission path”, as defined in claim 11 (from which claim 12 depends). Applicants thus respectfully request the Examiner to reconsider this rejection and find claim 12 to be in condition for allowance.

35 USC § 103(a) Rejection - Claims 1-5, 14 and 17

Next, the Examiner rejected claims 1-5, 14 and 17 under 35 USC 103(a) as being unpatentable over Chou et al. (as above), in further view of US Patent 6,208,442 (Liu et al.). With respect to claims 14 and 17, the Examiner cited Chou et al. as disclosing every element, except for wavelength filters (claim 14) and one arrangement at a transmitter, with another at a receiver (claim 17). In response, applicants assert that the combination of Chou et al. with Liu et al. still lacks any teaching of forming or utilizing an “in-line fiber polarimeter”, as defined by independent claim 11. Moreover, there is no teaching in Chou et al. of utilizing a “first” polarization control arrangement at an optical transmitter and a “second” polarization control arrangement at an optical receiver, as defined by rejected claim 17. The portion of Chou et al. cited by the Examiner identifies the use of a polarization controller 100 (at an optical transmitter) and a delay controller 200 (at an optical receiver).

Thus, applicants assert that the combination of Chou et al. and Liu et al. cannot be found to render obvious the teachings of the present invention as defined by claims 14 and 17.

Regarding claims 1-5, the Examiner cited Liu et al. as disclosing WDM aspects of the present invention, as used with an arrangement for assessing the polarization of each signal passing through the system. Independent claim 1 defines “at least one in-line fiber polarimeter disposed along and integral with said transmission optical fiber path”. Chou et al. does not disclose or suggest such an “in-line” arrangement, but instead uses a set of discrete components to provide the polarization assessment (beamsplitter and external polarimeter). Based on this difference, applicants assert that the combination of Chou et al. and Liu et al. cannot be found to render obvious the utilization of an “in-line fiber polarimeter” in an WDM optical communication system.

35 USC § 103(a) Rejection - Claims 6-7

The Examiner next rejected claims 6 and 7 under 35 USC 103(a) as being unpatentable over Chou et al. in view of Liu et al., in further view of US Patent 6,134,036 (Andreozzi et al.). Applicants have cancelled claims 6 and 7 from this application.

Allowable Subject Matter

The Examiner has cited claims 9, 10, 15 and 16 as being objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form. Inasmuch as applicants believe that amended independent claims 8 and 11 are in condition for allowance, applicants assert that claims 9, 10, 15 and 16 remain in condition for allowance in their dependent form.

In summary, the present application contains claims 1-5 and 7-18. Applicants have amended numerous ones of the claims to clarify the subject matter of the present invention as directed to an in-line *fiber* polarimeter that is formed as “integral with” a transmission optical fiber. Replacement Formal drawings are also enclosed with this response. Applicants believe that the case, in its present form, is now in condition for allowance and respectfully requests an early and favorable response from the Examiner in that regard. If for some reason or other the Examiner does not believe that the case is ready to issue and that an interview or telephone conversation would further the

prosecution, the Examiner is invited to contact applicants' attorney at the telephone number listed below.

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Date: 2/3/04